

CAES, University Partners Hold Industry Meeting

By Kortny Rolston, CAES Communications

Business, industry and university leaders met at the Center for Advanced Energy Studies last month about forging a new alliance to conduct radioactive materials research.

More than 60 people attended the two-day workshop to learn how industry could partner with CAES, Boise State University and University of Utah in their Radioactive Materials Processing Center (RAMP-C) and the benefits of doing so.

"It went well. We had a lot of industry, INL and university support," said Dr. Darryl Butt, head of Boise State University's materials science and engineering department.

The event was part of the ongoing effort to have RAMP-C designated a National Science Foundation industry/university cooperative.

Butt and the other organizers applied to the program last year and made it through the first round. The agency awarded them \$20,000 to hold the June planning session.

"We've made it past the first two hurdles," Butt said. "Now we have to submit another proposal and prove we have enough commitments from businesses to make this work."

The National Science Foundation established the research centers in the 1960s

as a way for universities and industry to collaborate on various projects.

The agency provides start-up money for five to 10 years to help the cooperatives get established.

Industry buy-in is key to earning the designation. A certain number of businesses have to agree to invest money in the cooperative in order for the National Science Foundation to consider it.

Rathindra DasGupta of the National Science Foundation said the cooperatives are designed to benefit both industry and the universities.

Because the agency helps cover the overhead, it requires universities to conduct research for companies at a lower cost. In exchange, students work on real-world projects and industry gains access to experienced faculty and labs that might otherwise be too expensive.

DasGupta said the model is a proven one. Most of the centers are now operating on their own without any money from the agency.

"These cooperatives allow universities and industry to come together and embark on



research that is mutually beneficial to both," DasGupta told workshop participants.

Now that the workshop is over, Butt and other organizers are working to secure funding from some of the companies that attended. Once they have those commitments, they will submit a second proposal to the National Science Foundation.

Butt is optimistic RAMP-C will make the final cut.

"That we've gotten this far is encouraging," he said. "The National Science Foundation has not always funded radioactive material research in the past. That was considered something the Department of Energy did. This shows they think our center is viable."



A Minute with Oren Hester

CAES Deputy Director Oren Hester grew up in Los Angeles. He earned a bachelor's degree in mathematics and a master's in biostatistics, both from UCLA. He moved to Idaho Falls in 1979 to take

a job at Idaho National Laboratory conducting operational analysis and statistical work for the Nuclear Regulatory Commission. He helped develop equipment and human reliability databases used to support risk analysis, performance monitoring, and predictive modeling techniques.

Hester has held several jobs at INL, in a variety of areas including training, environmental management and human performance. Before moving to CAES last October, he was deputy director of the lab's environmental safety and health directorate.

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Grosshans moderates panel at regional conference

By Kortny Rolston, CAES Communications

With the help of CAES and the Yellowstone Business Partnership, local companies recently learned how solar, wind and other renewable energies are powering projects in the area.

Center for Advanced Energy Studies staff assembled and moderated a panel called "Renewable Energy in Our Own Backyard" for the organization's annual meeting in Jackson, Wyo.

Panel members included Andy Tyson, co-owner of Creative Energies, which has helped install solar panels at Jackson's wastewater plant; Rich Rayhill of Ridge-line Energy, which has developed a large-scale wind project in eastern Idaho; and Jim Nation of the Department of Energy, which is generating electrical power from oil production wastewater at its Rocky Mountain Oil Field Testing Center.

CAES Program Coordinator Ray Grosshans said the goal was to show how renewable energy is being used commercially throughout the region.

"This conference caters to a business audience," he said. "These are people who are potential consumers of such commercial products and energy systems, so we wanted to show them what was out there and in use."

Grosshans also presented information on CAES, including its mission, partnerships and the role the state is playing in shaping the energy research being conducted at the Idaho Falls center.

Grosshans was impressed by the businesses that attended the conference.

"These were businesses that understood how taking advantage of alternative energy can help their bottom line," he said. "They had already figured out how to save money by composting, recycling and insulating and

wanted to know about other ways to save money."

Janice Brown, executive director of the Yellowstone Business Partnership, said the session was well attended. She was pleased at the diverse panel Grosshans and CAES put together.

"Several people who came to the conference were there specifically for the energy track and to hear what CAES and others are doing in this area," she said. "That tells me CAES has a lot to offer the region."



New NEUP director named

by: Kortny Rolston, CAES Communications

The Center for Advanced Energy Studies has hired a longtime

nuclear engineering professor to oversee a research program it administers for the Department of Energy's Office of Nuclear Energy.

Dr. John Gilligan has been named director of Nuclear Energy University Programs, which is housed at CAES. In his new role, Gilligan, who teaches at North Carolina State University, will work with U.S. colleges and the national laboratories involved in NEUP.

NEUP is a \$50-plus million federal program that funds nuclear energy research and equipment at U.S.

universities and provides scholarships and fellowships to nuclear science and engineering students. Its goals are to align universities' nuclear energy research with DOE's mission and boost enrollment in nuclear science and engineering.

Gilligan is well-known in university nuclear engineering circles.

He founded the Nuclear Engineering Education Sourcebook in 1986 and has edited it since. He also has published more than 100 research papers during his career including the years he worked as an administrator.

Gilligan said he is happy to be back in the "nuclear world" after having served in various dean positions and as North Carolina State's vice chancellor for research and graduate studies.

"This position allows me to be directly involved in research again and to work with universities to produce the best nuclear energy research possible," he said.

CAES Deputy Director Oren Hester said Gilligan has the technical and managerial experience to direct the national program and help it produce top-notch research.

"John is a highly respected nuclear scientist, engineer and administrator who brings a wealth of experience to NEUP," Hester said. "He will readily enable connections between the university community, national laboratory researchers and DOE administrators that will be for the long-term benefit of energy production in the U.S. and the world."

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What is your role at CAES?

I support the leadership team in strategic planning, business development, and manage a lot of the day-to-day operations. A lot of my time right now is being spent establishing business processes, an operational envelope and safety and health processes for CAES. Core to my role is understanding and meeting the needs of the researchers who work at CAES.

Why did you come to CAES?

I've been extremely fortunate and had some great opportunities at INL to work in a number of programmatic and support organizations. Working at CAES gives me a chance to use what I've learned in those diverse jobs, and also presents some unique opportunities. It's exciting to be part of a team that is building an entirely new facility and business from the ground up. I also get a chance to

work with the Idaho universities to help make this model successful.

What are the biggest challenges facing CAES?

Two come to mind. One is developing and implementing a business model that makes CAES more fiscally independent and less subsidized by the Laboratory. The second is to continue to grow upon the collaborative relationships with universities and industry.

Why will CAES be successful?

The timing for CAES is right both because of planned and serendipitous events. CAES is integral to achieving the INL vision and mission; it was part of Battelle Energy Alliance's proposal for managing the INL. As the economic trouble continues, Idaho's universities are being asked to do more with a lot less and that has created a sense of urgency for them to collaborate more, especially in areas where they have overlapping capabilities.

They are looking toward each other and the lab to create synergy in the research area. Finally, university, DOE and BEA leadership all consistently express strong advocacy and demonstrate support for CAES.

What do you do in your free time?

I spend a lot of time with my wife, Shauna. We really enjoy spending time together playing tennis in the winter (indoors of course), golfing in the warmer months, and always planning our "next" vacation. We golf together 90 percent of the time.

What is your favorite course?

The three Idaho Falls courses present different challenges. The course we enjoyed the most both because of the course and the island of Maui is the Wialea Golf Resort. We plan to return to play it again, as well as watch the Mercedes championship.

Have you ever gotten a hole in one?

No

CAES Researchers Collaborate on Public Policy Research Study

By John Freemuth, Ph.D., Interim Director of the Energy Policy Institute

Editor's note: An earlier version of this story was printed in the Idaho Statesman on November 23, 2007.

CAES researchers recently conducted an experiment investigating different public discourse methods in energy policy decision-making.

Approximately 70 Boise-area residents participated in a study that explored whether the input of an informed citizenry can improve public policy decision-making despite the technical complexity of the topic, competing scientific views and polarized interest groups.

The team was comprised of researchers from all four CAES partner institutions – Boise State University, Idaho State University, University of Idaho and Idaho National Laboratory. It used several discourse methods to see how well they could accomplish these purposes: better inform citizens, allow citizens to interact with each other in a deliberative manner,

provide a forum for a give and take with subject matter experts on all sides, learn what methods of public involvement are preferred by citizens, and examine whether public attitudes, as measured through timed opinion surveys, change and in what direction.

Too often, interests, experts and elected officials are perceived to claim to speak for "the public" without ever engaging them in a thoughtful and deliberative manner. Or, those on the opposite side of an issue are stereotyped as "emotional and hypocritical environmentalists," "elitist and undemocratic engineers," or "pork barreling universities and national labs."

It was our hope that some of the deliberative processes tested in this research might



Citizen participants deliberating on expert panelists' answers to questions regarding ways Idaho can meet future electricity demand.

overcome some of these stereotypes and allow real policy deliberation and learning to occur – the kind that improves dialogue and understanding, guides technology research, development and deployment, and most importantly, facilitates our ability to make the tough decisions that will ensure our energy future.

Idaho's Universities Receive \$578,000 for Research and Education Programs

By Kortny Rolston, CAES Communications

Idaho's public universities will receive more than \$578,000 from the U.S. Department of Energy to buoy their nuclear energy research and education programs.

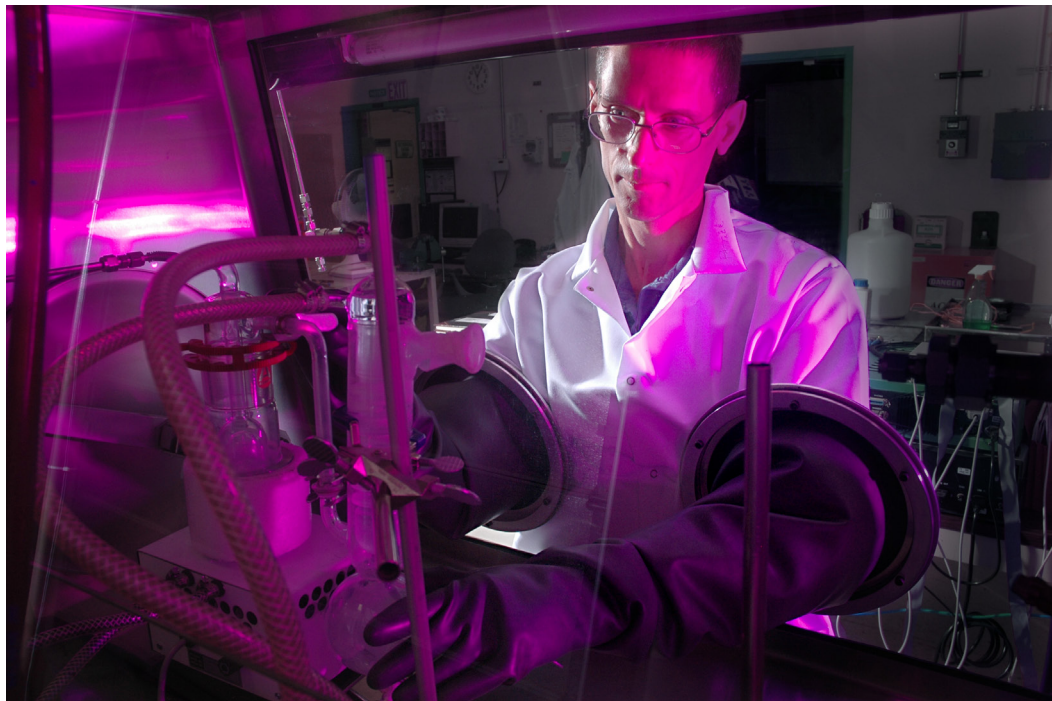
Boise State University, Idaho State University and University of Idaho were awarded grants (the individual amounts have not been released) for new laboratory and classroom equipment through Nuclear Energy University Programs, a DOE Office of Nuclear Energy initiative administered by Center for Advanced Energy Studies staff.

"The Idaho universities submitted really strong proposals," said Marsha Lambregts, NEUP program manager. "The selection committee felt the equipment the universities proposed buying would really strengthen their programs and the education their students receive."

NEUP awarded roughly \$6 million in infrastructure grants to 29 U.S. universities in 23 states. The goal is to improve universities' ability to conduct nuclear energy research and educate students entering the nuclear field. The maximum award per university is \$300,000.

University of Idaho plans to purchase a new high-temperature oven and other laboratory equipment to research graphite and its use in the latest designs for the next generation of nuclear reactors (referred to as the Next Generation Nuclear Plant or Gen IV project).

"Graphite is happy in extreme reactor environments with high temperatures and



high amounts of radiation, but there is still a lot we don't know about it and how it will react with other materials," said Dr. Fred Gunnerson, University of Idaho's director of nuclear engineering. "This equipment will really help us with our research."

Both UI and ISU plan to house much of the new equipment in labs at CAES.

That way, said Dr. Jason Harris of Idaho State University, researchers from INL and other universities have access to it.

"This will really be multi-use equipment that will benefit a lot of groups," he said.

"Researchers and students from ISU, UI and Boise will be able to use it and so will INL scientists."

Idaho nuclear engineering and science students also were awarded nearly \$200,000 in scholarships and fellowships through NEUP.

Five Idaho State and four University of Idaho undergraduate students won \$5,000 scholarships to help pay for college for the next year. Ben Baker, an Idaho State University student, will receive a \$150,000 fellowship over the next three years to help pay for his graduate studies and research.

The scholarship recipients are: Bryon Currutt, Yvonne Fields, Dacoda Hale, Joshua Larson and Bruce Pierson of Idaho State University; and Andrew Dahlke, Nicholas Eimers, Peter Wells and Zack Wuthrich of the University of Idaho.

"DOE-NE is committed to training the next generation of nuclear scientists and engineers and these scholarships and fellowships are a way to do that," Lambregts said.

Grant Money

Here is what Idaho's three research universities plan to purchase with their grant money:

Boise State University – Ion slicer for transmission electron microscopy sample preparation of nuclear materials

Idaho State University – Infrastructure support for analytical and health physics laboratory instrumentation

University of Idaho – Equipment to establish medium-to-higher temperature material characterization capability

To submit story ideas, calendar items or other information for upcoming CAES newsletters, please send an e-mail to Kortny.Rolston@inl.gov.